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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/692,671 | 10/24/2003 | Tibor Boros | 15685P023DC | 9975 |

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EXAMINER

PHUONG, DAI

ART UNIT PAPER NUMBER

2688

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/692,671 | BOROS ET AL. | |
| | Examiner | Art Unit | |
| | Dai A. Phuong | 2688 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/25/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 9-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. 6,339,399) in view of Ohgami (U.S. 5,430,789).

Regarding claim 9, Andersson et al. disclose a communications device comprising: a transmitter coupled to an antenna array, the antenna array comprising a plurality of antenna elements (fig. 6, col. 9, lines 21-32), the transmitter operable to transmit a calibration burst by:

However, Andersson et al. do not disclose transmitting a first waveform from a first antenna element of the plurality of antenna elements; and transmitting a second waveform from two or more antenna elements from the plurality of antenna elements; wherein the first waveform comprises a combined signal, the combined signal comprising a combination of two or more signals, and wherein the second waveform comprises the two or more signals, each signal corresponding with one antenna element from the two or more antenna elements.

In the same field of endeavor, Ohgami discloses transmitting a first waveform from a first antenna element of the plurality of antenna elements (col. 2, lines 26-38); and transmitting a second waveform from two or more antenna elements from the plurality of antenna elements (col. 2, lines 26-38); wherein the first waveform comprises a combined signal, the combined

signal comprising a combination of two or more signals, and wherein the second waveform comprises the two or more signals, each signal corresponding with one antenna element from the two or more antenna elements (col. 2, lines 26-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cellular communication system of Andersson et al. by specifically including transmitting a first waveform from a first antenna element of the plurality of antenna elements; and transmitting a second waveform from two or more antenna elements from the plurality of antenna elements; wherein the first waveform comprises a combined signal, the combined signal comprising a combination of two or more signals, and wherein the second waveform comprises the two or more signals, each signal corresponding with one antenna element from the two or more antenna elements, as taught by Ohgami, the motivation being in order to prevent the total service breakdown of one of the cell zones which is serviced by a particular frequency range of transceiver panels.

Regarding claim 10, the combination of Andersson et al. and Ohgami disclose all the limitation in claim 9. Further, Ohgami discloses the communications device wherein the first antenna element is one of the two or more antenna elements (fig. 3, col. 2, lines 26-38).

Regarding claim 11, the combination of Andersson et al. and Ohgami disclose all the limitation in claim 9. Further, Ohgami discloses the communications device wherein the second waveform comprises a sum of the two or more signals (fig. 3, col. 2, lines 26-38).

Regarding claim 12, the combination of Andersson et al. and Ohgami disclose all the limitation in claim 9. Further, Andersson et al. disclose the communications device wherein the communications device comprises a base station of a radio communications network (col. 6,

lines 14-64). In addition Ohgami disclose the communications device the communications device wherein the communications device comprises a base station of a radio communications network (col. 2, lines 57-68).

Regarding claim 14, the combination of Andersson et al. and Ohgami disclose all the limitation in claim 9. Further, Ohgami et al. disclose the communications device wherein each signal of the second waveform is being transmitted from a corresponding antenna element (fig. 3, col. 2, lines 26-38).

Regarding claim 15 the combination of Andersson et al. and Ohgami disclose all the limitation in claim 9. Further, Andersson et al. disclose the communications device wherein the first antenna element comprises a reference element with respect to which the other antenna elements are calibrated (col. 6 lines 30-64).

3. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. 6,339,399) in view of Ohgami (U.S. 5,430,789) and further in view of Miya et al. (Pub. No: 2003/0186725).

Regarding claim 13, the combination of Andersson et al. and Ohgami disclose all the limitation in claim 12. However, the combination of Andersson et al. and Ohgami do not disclose communications device wherein the calibration burst is transmitted to a user terminal of the radio communications network, the user terminal being operable to use the calibration burst to assist in calibrating the base station.

In the same field of endeavor, Miya et al. disclose communications device wherein the calibration burst is transmitted to a user terminal of the radio communications network, the user

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terminal being operable to use the calibration burst to assist in calibrating the base station ([0021] to [0023] and [0065]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cellular communication system of the combination of Andersson et al. and Ohgami by specifically including the calibration burst is transmitted to a user terminal of the radio communications network, the user terminal being operable to use the calibration burst to assist in calibrating the base station, as taught by Miya et al., the motivation being in order to provide a calibration system for the array antenna radio communication apparatus capable of accurately detecting the delay characteristic and amplitude characteristic at the radio reception units.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Narita et al. (U.S. 6385464) base station for communication system

Dent (U.S. 6151310) Dividable transmit antenna array for a cellular base station

Ling et al. (6172970) low complexity antenna array receiver

Forssen et al. (U.S. 5838674) time division multiple access system

Kamiya et al. (U.S. 5854612) controlling array antenna

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eng George can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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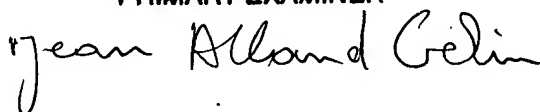
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong

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Date: 11-24-2005

JEAN GELIN
PRIMARY EXAMINER

A handwritten signature in cursive script that reads "jean Alband Gelin". The signature is written in black ink and is positioned to the right of the printed name and title.